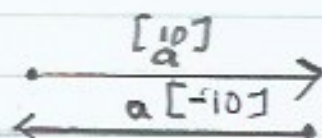


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2a) i)

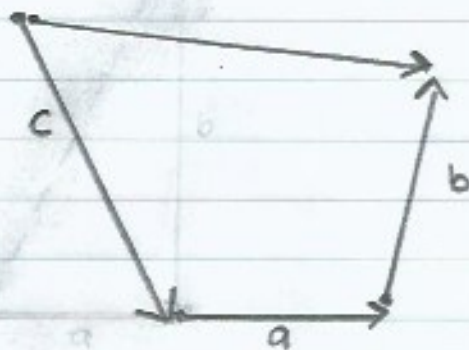
ii)



$$\vec{a} = 10$$

$$\vec{a} = -10$$

iii)



$$2b: \vec{AD} = \vec{a} + \vec{b} + \vec{c} + \vec{e}$$

$$iii: \vec{AP} = \vec{a} + \vec{b} + \frac{1}{2}(\vec{b})$$

$$= \vec{a} + \frac{3}{2}\vec{b}$$

$$ii: \vec{EB} = -\vec{c} - \vec{b}$$

$$2c: i) \text{ Parallel} = F_H = mg \sin \theta$$

$$F_V = mg \cos \theta = \text{Perpendicular}$$

$$ii: \theta = 30^\circ \quad \sin \theta = 0.50$$

$$\cos \theta = 0.866$$

$$F_{||} = 220 \times 0.50$$

$$= \underline{110.00 \text{ N}}$$

$$F_{\perp} = 220 \times 0.866$$

$$= \underline{190.52 \text{ N}}$$

3a i) Current is the flow of electric charge, ~~they~~ are made up of which interm are carried by particles such as electrons and ions.

$$\underline{\underline{I = \frac{V}{R}}}$$